AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A low power ~~RF~~ radio-frequency receiver including an antenna for receiving radio-frequency signals originating from satellites, a reception and shaping stage for the radio-frequency signals provided by the antenna, a correlation stage formed of several channels which each include a correlator, said correlation stage receiving intermediate signals shaped by the reception stage, a microprocessor connected to the correlation stage and ~~intended~~ adapted to calculate X, Y and Z position, velocity and time data as a function of data extracted, after correlation, from the radio-frequency signals transmitted by the satellites, wherein the intermediate signals provided to the correlation stage are complex signals which have been sampled and quantified in the reception and shaping stage, these complex signals being formed for a 1-bit or more in-phase component and a 1-bit or more quarter-phase signal component, wherein, in each channel, a controller, including a digital signal processing algorithm, is associated with the correlator to allow all ~~the~~ synchronisation tasks to be performed autonomously for acquiring and tracking a satellite when the channel is set in operation, and wherein at least a set of data input and output registers is placed at the interface between the correlation stage and the microprocessor in order to receive ~~data~~ data, transmitted by the microprocessor to the correlation ~~stage~~ stage, and data supplied from the correlation stage, said data passing through the set of registers being formed of signals of a frequency lower than or

equal to the frequency of ~~the~~ message signals, so that the microprocessor can perform the tasks of calculating the position, velocity and time without any intervention as regards the synchronisation and correlation tasks.

2. (canceled).

3. (currently amended): A ~~RF~~ radio-frequency receiver according to claim 1, wherein the controller acts on control loops of ~~the C/A~~ a pseudo random noise code phase and ~~the~~ a carrier frequency in a bit-parallel architecture.

4. (currently amended): A ~~RF~~ radio-frequency receiver according to claim 1, wherein each correlator is formed (1) of a first multiplier stage for multiplying the intermediate signals ~~with~~ with, on the one ~~hand~~ hand, the cosine minus i times the sine of ~~the~~ a replica of ~~the~~ a carrier frequency generated digitally in the correlation ~~stage~~ stage, and ~~with~~ with, on the other ~~hand~~ hand, the minus sine minus i times the cosine of this carrier frequency replica to provide ~~at~~ as an output a first in-phase signal and a second quarter-phase signal, and (2) of a second multiplier stage for correlating the first signal ~~with~~ with, on the one ~~hand~~ hand, a late replica of the satellite ~~C/A~~ pseudo random noise code signal digitally generated in the correlation ~~stage~~ stage, and ~~with~~ with, on the other ~~hand~~ hand, an early replica of the satellite ~~C/A~~ pseudo random noise code signal and to correlate the second signal ~~with~~ with, on the one ~~hand~~ hand, a late replica of the satellite ~~C/A~~ pseudo random noise code signal ~~and~~ and, on the other ~~hand~~ hand, an early replica of the satellite ~~C/A~~ pseudo random noise code signal, the four signals leaving the second multiplier stage being each passed into a respective integrator counter to provide four in-phase and quarter-phase code signals each distributed over at least 8 bits in a ~~C/A~~ pseudo random noise

code phase correction loop, and the sum of the two in-phase code signals and the sum of the two quarter-phase code signals providing two carrier signals each distributed over at least 8 bits in a carrier frequency correction loop.

5. (currently amended): A ~~RF~~ radio-frequency receiver according to claim 4, wherein the early signals have a phase offset of a half chip with respect to the late signals.

6. (currently amended): A ~~RF~~ radio-frequency receiver according to claim 4, wherein the code correction loop includes in succession a code loop discriminator, a code loop filter, a 28-bit ~~NCO~~ numerically controlled oscillator, and a ~~C/A~~ pseudo random noise code generator connected to a 2-bit register supplying the early and late replicas to the second multiplier stage.

7. (currently amended): A ~~RF~~ radio-frequency receiver according to claim 4, wherein the carrier frequency correction loop includes in succession a carrier loop discriminator, a carrier loop filter, a 24-bit ~~NCO~~ numerically controlled oscillator and two units for providing to the first multiplier stage of the cosine and the sinus of the replica of the carrier frequency corrected by the ~~NCO~~ numerically controlled oscillator.

8. (currently amended): A ~~RF~~ radio-frequency receiver according to claim 1, wherein it includes 12 channels with a correlator and a controller for each of them.

9. (currently amended): A ~~RF~~ radio-frequency receiver according to claim 1, wherein a first part of the correlator and the controller of each channel is clocked by a first clock signal provided by a quartz oscillator housed in the reception and shaping stage, and wherein a second part of the correlator and the controller is clocked by a second clock signal, the frequency of the first clock signal being 16 times greater than the frequency of the second clock signal.

10. (currently amended): A ~~RF~~ radio-frequency receiver according to claim 1, wherein a set of registers is provided for each channel.

11. (currently amended): A ~~RF~~ radio-frequency receiver according to claim 10, wherein the correlation stage, the set ~~or sets~~ of ~~registers~~ registers, and the microprocessor are made in a single semiconductor substrate.

12. (currently amended): A watch including a ~~RF~~ radio-frequency receiver according to claim 1, wherein the ~~RF~~ radio-frequency receiver is housed in the case of the watch and is powered by an energy accumulator or a battery also used for powering ~~the~~ electronic components for ~~the~~ horological functions.

13. (new): A low power radio-frequency receiver including an antenna for receiving radio-frequency signals originating from satellites, a reception and shaping stage for the radio-frequency signals provided by the antenna, a correlation stage formed of several channels which each include a correlator, said correlation stage receiving intermediate signals shaped by the receiption stage, a microprocessor connected to the correlation stage and adapted to calculate X, Y and Z position, velocity and time data as a function of data extracted, after correlation, from the radio-frequency signals transmitted by the satellites,

wherein, in each channel, a controller, including a digital signal processing algorithm, is associated with the correlator to allow all synchronisation tasks to be performed autonomously for acquiring and tracking a satellite when the channel is set in operation,

wherein the controller acts on control loops of the pseudo random noise code phase and a carrier frequency in a bit-parallel architecture, and

wherein at least a set of data input and output registers is placed at the interface between the correlation stage and the microprocessor in order to receive data transmitted by the microprocessor to the correlation stage and data supplied from the correlation stage, said data passing through the set of registers being formed of signals of a frequency lower than or equal to the frequency of message signals, so that the microprocessor can perform the tasks of calculating the position, velocity and time without any intervention as regards the synchronisation and correlation tasks.

14. (new): A low power radio-frequency receiver including an antenna for receiving radio-frequency signals originating from satellites, a reception and shaping stage for the radio-frequency signals provided by the antenna, a correlation stage formed of several channels which each include a correlator, said correlation stage receiving intermediate signals shaped by the reception stage, a microprocessor connected to the correlation stage and adapted to calculate X, Y and Z position, velocity and time data as a function of data extracted, after correlation, from the radio-frequency signals transmitted by the satellites, wherein, in each channel, a controller, including a digital signal processing algorithm, is associated with the correlator to allow all synchronisation tasks to be performed autonomously for acquiring and tracking a satellite when the channel is set in operation, and wherein at least a set of data input and output registers is placed at the interface between the correlation stage and the microprocessor in order to receive data, transmitted by the microprocessor to the correlation stage, and data supplied from the correlation stage, said data passing through the set of registers being formed of signals of a frequency lower than or equal to the frequency of message signals, so that the microprocessor

can perform the tasks of calculating the position, velocity and time without any intervention as regards the synchronisation and correlation tasks,

wherein a first part of the correlator and the controller of each channel is clocked by a first clock signal provided by a quartz oscillator housed in the reception and shaping stage, and wherein a second part of the correlator and the controller is clocked by a second clock signal, the frequency of the first clock signal being 16 times greater than the frequency of the second clock signal.

15. (new): A watch including a low power radio-frequency receiver including an antenna for receiving radio-frequency signals originating from satellites, a reception and shaping stage for the radio-frequency signals provided by the antenna, a correlation stage formed of several channels which each include a correlator, said correlation stage receiving intermediate signals shaped by the reception stage, a microprocessor connected to the correlation stage and adapted to calculate X, Y and Z position, velocity and time data as a function of data extracted, after correlation, from the radio-frequency signals transmitted by the satellites, wherein, in each channel, a controller, including a digital signal processing algorithm, is associated with the correlator to allow all synchronisation tasks to be performed autonomously for acquiring and tracking a satellite when the channel is set in operation, and wherein at least a set of data input and output registers is placed at the interface between the correlation stage and the microprocessor in order to receive data, transmitted by the microprocessor to the correlation stage, and data supplied from the correlation stage, said data passing through the set of registers being formed of signals of a frequency lower than or equal to the frequency of message signals,

so that the microprocessor can perform the tasks of calculating the position, velocity and time without any intervention as regards the synchronisation and correlation tasks,

wherein the radio-frequency receiver is housed in the case of the watch and is powered by an energy accumulator or a battery also used for powering electronic components for horological functions.